

**AMENDMENT E**  
(37 C.F.R. 1.116)

**IN THE SPECIFICATION:**

Please amend the specification in accordance with 37 C.F.R. 1.121.

On page 6, in the first paragraph starting on line 1 and ending on line 9;

On page 6, in the paragraph starting on line 33 and ending on line 35;

On page 7, in the paragraph starting on line 1 and ending on line 7;

On page 24, in the paragraph starting on line 7 and ending at line 12; and

In the paragraph starting on page 24, line 21 and ending on page 25, line 13.

The affected amended paragraphs are attached herein on separate sheets.

**IN THE CLAIMS:**

Please amend claims 1, 2, 3, 4, 10, 33, 34, 35, 36, 42, 56 and 59 in accordance with 37 C.F.R. 1.121.

Please cancel claims 11-32, 43-55, 57-58 and 60-61 without disclaimer to their content and without prejudice to their subsequent reintroduction into this or a future patent application.

The claims are attached herein on separate sheets.

## **AMENDMENT TO SPECIFICATION**

**[Deleted material is struck-through and added material is underlined]**

On page 6, in the first paragraph starting on line 1 and ending on line 9:

It is evident that the new chemical species of magnecular clusters implies an increase of the specific weight of any gas, thus including hydrogen and oxygen. In fact, by denoting the valence bond with the symbol - and the magnetic bond with the symbol x, it is evident that the creation of an essentially pure population of magnecular clusters with the structures (H-H)xH, (H-H)x(H-H), (H-H)x(H-H)xH, etc., have respective weights ~~specific-densities~~ of the order of 3, 4, 5, etc., while the conventional molecular structure H<sub>2</sub> can only have a weight ~~specific-density~~ close to 2, as recalled earlier.

On page 6, in the paragraph starting online 33 and ending on line 35:

A primary objective of this invention is therefore that of achieving the new chemical species of MagH<sup>TM</sup> hydrogen fuel with a weight ~~an average specific density~~ of about 10. a.m.u.

On page 7, in the paragraph starting on line 1 and ending on line 7:

A fully similar situation occurs for oxygen. In fact, the conventional molecule  $O_2 = O-O$  has ~~a weight~~ ~~the specific density~~ of 32 a.m.u. while clusters ~~magnecules~~  $(O-O)_xO$ ,  $(O-O)_x(O-O)$ ,  $(O-O)_x(O-O)_xO$ , etc. have corresponding ~~specific densities~~ weights of 48, 64, 80, etc. In this case too the creation of a magnecular structure of the oxygen with 5 times the specific density of the conventional molecular oxygen reduces its storage size by 1/5-th.

On page 24, in the paragraph starting at line 7 and ending at line 12:

- 1) The average specific density of this type of the processed hydrogen was measured by two independent laboratories which issued written statements that this particular form of processed hydrogen has a weight ~~the average specific density~~ of 15.06 a.m.u., while conventional pure hydrogen has the weight ~~specific density~~ of 2.016, thus implying a 7.47 fold increase of the specific density of conventional hydrogen.

In the paragraph starting on page 24, line 21 and ending on page 25, line 13:

3) The same type of processed hydrogen used in the preceding tests was submitted to Gas Chromatographic Mass Spectrometric (GC-MS) tests via the use of a HP GC 5890 and a HP MS 5972 with operating conditions specifically set for the detection of magneclules, which are different than those for molecules, such as: a feeding line with the biggest possible section of 0.5 mm diameter was selected (to prevent that large magneclusters are not permitted to enter the instrument because of the use of a micrometric feeding line); the feeding line was cryogenic cooled; the operation of the columns at the lowest admitted temperature of 10 degrees C (to prevent that the column temperature would disintegrate the magneclular clusters); the longest possible ramp time of 26 minutes was selected (to permit the separation of the peaks representing magneclular clusters); and other requirements. The results of this third test are reproduced in Fig. 16. As one can see, by keeping in mind the results of GC-FTIR of FIG. 15, the GC-MS measurements should have shown only two peaks, that for hydrogen and that for methane. On the contrary, these GC-MS tests do confirm indeed the existence of a large peak at about a weight of 2 a.m.u. evidently representing hydrogen, but also the presence of a considerable number of additional peaks in macroscopic percentages all the way to a weight of 18 a.m.u. It is evident that these latter peaks establish the existence of a magneclular structure in the type of magneclular clusters of hydrogen here studied. Note, in particular, the existence of well identified peaks in macroscopic percentage with atomic weight of 3, 4, 5, 6, 7, 8 and higher value which, for the gas under consideration here, can only be explained as magneclular clusters composed of individual H atoms as well as H molecules in increasing numbers.